

The Life and Death of Frames: Dynamics of Media Frame Duration

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Media framing scholars have long examined why journalists select certain frames over others at a given point. However, we know much less about why certain frames persist over time in the media while others fade away and still others disappear very quickly. In this study, we bring attention to the study of frame duration and offer an approach based in event-history methodologies that can assess the causes of repeated frame deployment over both long and short periods of time. As an illustration, we examine the British coverage of the 2006 Danish Muhammad cartoon controversy, demonstrating a rigorous and analytically sound approach to the longitudinal analysis of media framing dynamics.

Keywords: framing, frame duration, event history analysis

Studies of media frames and framing have proliferated in recent decades. This literature includes a plethora of careful analyses that cast light on how journalists select the frames used to shape perspectives on various news issues and events. These wide-ranging studies have proven incredibly valuable—providing a better sense of the ways in which journalistic routines (cf. Gandy, 1982; Tuchman, 1978; Wolfsfeld, 1997), frame sponsorship (cf. Bennett, 1990; Bennett, Lawrence, & Livingston, 2007; Entman, 2004; Gamson & Modigliani, 1989; Wolfsfeld, 1997), cultural resonance (cf. Entman, 2004; Gamson & Modigliani, 1989), and characteristics of the frames themselves (cf. Esser, 2008; Gitlin, 1980) impact the processes by which journalists select one frame over another. However, as yet, scholarship has given relatively little attention to a related but distinct framing process: media frame duration. Studying frame duration—which may be understood as the *repeated* selection of a given frame—allows for several key developments in the analysis of media framing processes. First, it introduces a crucial temporal dimension to our investigations. Where the study of frame selection provides useful insights into the reasons why journalists choose one frame over another at any single point, the study of frame duration provides a vital longitudinal perspective that allows us to examine why, once selected, some frames persist while others fade away slowly and still others disappear very quickly. Understanding why some frames successfully endure while others disappear sheds light on the mechanisms of framing, allowing not just a descriptive assessment of frames and frame change over time but a systematic assessment of the

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explanatory factors that might account for observed dynamics. Second, the search for such explanatory factors opens our examination to the application of quantitative event history analysis techniques, which hold a great deal of promise for, but have seen only limited use in, communication research broadly and framing research in particular (Snyder & O'Connell, 2008). Finally, the empirical analysis of media frame duration avoids a common limitation in cross-sectional studies that examine why journalists choose certain frames over others: data truncation (Breen, 1996). Unable to determine, "what might have been," most empirical studies of frame selection cannot fully ascertain what frames journalists could have selected at a given point but ultimately did not. As such, the data resulting from these studies are truncated, and findings drawn from these data are likely biased. By comparing only those frames that are *already selected* to one another, examination of frame duration avoids data truncation and the analytical biases that ensue.

In this article, we offer one illustration of how frame duration might be investigated using an original data set of daily framing dynamics in British mass-media coverage of the 2006 Danish Muhammad cartoon controversy. This controversy emerged after the Danish newspaper *Jyllands-Posten* published a series of cartoons under the heading "The Face of Muhammad." Though aware of Sunni Islam's general prohibition against depicting the Prophet, most of the cartoons portrayed Muhammad—including one with a bomb in his turban. Local and international Muslim leaders responded with a boycott of Danish goods, which in turn prompted a number of newspapers and magazines across Europe to republish the cartoons in the name of freedom of speech. Worldwide demonstrations by Muslims followed, and when a few turned violent, an international media firestorm was born.

The controversy provides an intriguing initial exemplar and test case. A quintessential example of event-driven news (Shehata, 2007), the Danish cartoon controversy received remarkable levels of worldwide media coverage, dominated many countries' media landscapes for days, and had a lasting impact. Years later, the controversy is frequently referenced in discussions concerning relations between Muslims and the West in general, and it figured particularly prominently in coverage of the attacks on the French satirical magazine *Charlie Hebdo* in Paris in January 2015. Indeed, as with the Paris events, the most intense period of international media coverage for the Danish controversy lasted just a matter of days, and within several weeks media frames related to the controversy had dwindled away to almost nothing. However, during this period, some frames were consistently repeated from one day to the next, while other frames lasted just a few days, then disappeared from discussion, and still others—a strong plurality, in fact—were selected once but never deployed again. As such, coverage of the Danish cartoon controversy presents a useful case study for examining the ways in which media framing can change not just over long periods of time but also during very short, intense bursts of news coverage.

We begin our analysis by providing further clarification about the differences between frame duration and several related concepts, then turn to a discussion of the theoretical expectations about factors contributing to frame duration. We next describe our methodological design, followed by the presentation of our empirical findings. The article concludes with a discussion about the implications of our approach for future research, including alternative ways in which this theory and methodology might be applied to different cases and alternative conceptualizations of media frames.

Frame Duration

In the context of media framing processes, frame endurance can be understood as *the repeated, continuous deployment of a specific frame in the mass media over time*. Frame duration, then, refers to *the specific length of time over which a frame is repeatedly and continuously deployed*. Duration can be measured based on any time unit—from days, weeks, and months to years—and thus may be used for framing analyses concerned with any period and any issue or event. This also permits the analysis of frames conceptualized at different levels of abstraction. In this study, we focus on frames found in manifest content expressed at the sentence level (see the Frame Data section), but more abstract frames identified at the story or article level might be fruitfully examined over longer periods using the same analytical techniques.

Understanding frame endurance as repeated, continuous deployment of a specific frame distinguishes frame duration from its much-studied cousin, frame selection, in two key ways. First, frame duration can only be assessed once a frame has *already been selected*. This distinction allows us to avoid a core analytical problem inherent in empirical analyses of frame selection. In most instances, when we study frame selection the population of frames is undefined. That is, one does not know what frames were *not* selected, and thus data are truncated. In other words, data from all unselected frames are systematically omitted from the research. But for frame duration, the population is available and clearly defined (i.e., those frames have already been deployed in the media). Second, whereas frame selection is studied cross-sectionally, frame duration is an iterative process occurring and examined longitudinally. Analyzing framing processes over time allows one a more nuanced view of both the complex ways in which media framing of any given issue evolves and the various factors that explain such evolution.

Frame duration is also closely related to two other commonly employed analytical concepts: frame competition and frame change. Duration is related to frame competition insofar as “winning” frames endure while “losing” frames disappear at an earlier point than their competitors. However, the notion of frame competition can emphasize either the repetition or longevity of frames, but does not necessarily require attention to both. To give a simplified example, Frame A may be said to “win” a competition with Frame B, because the former is embraced and repeated by more media outlets, regardless of when this repetition occurs. But Frame B may also be said to “win” the competition if it is expressed by the media 10 years after Frame A last appeared, even if Frame A appeared many more times than Frame B at the initiation of the competition. Moreover, in some competitions, frames are more or less evenly matched. That is, despite opposing or contradicting one another, it is entirely possible for two or more frame competitors to endure for the same period of time.

Moreover, because a study of frame duration will not count the number of times a frame appears at a given point, but instead the number of *units of time* across which that frame appears, frame duration differs from the notion of frame change. In most applications of the latter concept, frame change refers to a specific point at which one frame declines in media usage—perhaps even entirely disappears—while another frame becomes more prominent. When change is indeed marked by the disappearance of one frame, we would say that the duration of the frame has ended. However, frame change does not

necessarily signal a difference in frame duration. Frame B may suddenly become more frequent or prominent than Frame A, while Frame A continues to appear—and thus, endure—in media accounts.

Why Might Frames Endure?

Frame Characteristics

Extensive work on the sociology of news production suggests that various journalistic norms and routines lead journalists to gravitate toward frames with particular characteristics. In an effort to “attract media consumers,” journalists prioritize “emotional, conflictual, or human interest”—in short, dramatic—frames (Beckett, 1996, p. 72). In addition, journalists frequently attempt to achieve “objectivity” by choosing frames that oppose, or “balance” one another.

The logic in both instances is simple—journalists select frames that meet their news production needs for drama and balance. However, the logic driving frame *duration* is a bit more straightforward for the former than for the latter. Unless we are looking at extremely long periods of time, journalistic norms are unlikely to shift radically, and, thus, as long as the profit motive and drive for audience attention continue to hold sway in news practices, dramatic frames are likely to receive repeated and continuous selection over time. However, because those frames selected to achieve balance—what we might call counterframes—operate in pairs (or groups), the expectations about frame duration tie the counterframe to the occurrence of the competing frame(s). In other words, despite the fact that the logic of objectivity and balance should drive the repeated selection of counterframes over time, the precise duration of a counterframe will depend on the duration of the opposing frame(s).

Cultural Resonance

Robert Entman (2004) has developed perhaps the fullest conceptualizations of cultural resonance (or cultural congruence) and its impact on framing processes (see also Gamson & Modigliani, 1989). Entman suggests that frames may be more or less congruent with the internal, cognitive frames, or “schemas,” that individuals use to process the external frames forwarded by the media. The better fit the external frame has with one’s own internal schema(s), the more likely one is to accept said frame without question. Aggregated to the societal level, Entman argues that media frames that resonate with schemas dominant in the wider political culture will find the greatest social acceptance. And, he suggests, “reporters readily construct associations in the news matching the public’s habits of thinking,” both because journalists are likely to share these habitual schemas and because they are rewarded with positive “career-enhancing attention” from colleagues and the public when they do so (Entman, 2004, p. 15).

We expect that a given frame’s duration will be linked to its cultural resonance using similar logic. That is, the more natural and familiar a frame seems—or the more it conforms to the “public’s habits of thinking”—the more likely journalists and editors will be to not just select that frame but to *repeatedly* select it over time. In fact, the longer a particular frame endures, the more natural and familiar it should

become. Thus, cultural resonance is likely to have a cumulative impact over (relatively long periods of) time.

Frame Sponsors

William Gamson and Andre Modigliani (1989) argue that frame sponsors are often at the heart of media framing processes. "Much of the changing culture of an issue," they observe,

is the product of enterprise. [Frame] packages frequently have sponsors, interested in promoting their careers. Sponsorship is more than merely advocacy, involving such tangible activities as speech making, interviews with journalists, advertising, article and pamphlet writing, and the filing of legal briefs to promote a preferred package. (p. 6)

Much of the work on media frame selection calls particular attention to the role of public officials as frame sponsors. W. Lance Bennett's "indexing hypothesis" has proven particularly influential in this regard. In Bennett's (1990) original explication of the hypothesis, he posits that journalists and editors use the frames of governing elites to set the terms of public debate. More specifically, Bennett suggests that when public officials concur with one another on the framing of an event, policy, or issue, the mass media will accept and echo this framing, but when public officials disagree, the media will reproduce the disputed frames—in either case, "indexing" elite discourse.

In this perspective, typically "'other' (i.e., nonofficial) voices filling out the potential universe of news sources are included in news stories and editorials when those voices express opinions already emerging in official circles" (Bennett, 1990, p. 106). However, indexing research has shown that event-driven news—or media coverage that is "cued by the appearance of dramatic news events erupting within or outside" the typical institutional bounds of journalistic practice (Lawrence, 2000, p. 173)—presents the best opportunity for nonofficial voices to break through the media. Public officials' preferred frames tend to dominate media framing when the relevant issues are part of the day-to-day operations of and debates within political institutions covered by political news beats, but when unexpected events arise and public officials do not have prepackaged frames at the ready, challengers stand a greater chance of promoting their frames (Bennett et al., 2007).

Bennett provides several explanations for the standard practice of mass media indexing. First, indexing fits journalists' fast-paced routines, "constitut[ing] a quick and ready guide for editors and reporters to use in deciding how to cover a story" (Bennett, 1990, p. 108) and providing a useful shortcut for deciding which points of view are most valuable. Second, indexing helps fulfill norms of democratic responsibility. For journalists, "governmental definitions of reality are supposed to be . . . the best approximation of that bedrock of political reality, responsible public opinion" (Bennett, 1990, p. 109). Finally, indexing serves the "objectivity" norm. When indexing public officials' frames, journalists "can define their roles as merely informing the public on the actions of government" (Bennett, 1990, p. 110).

The logic behind each of these mechanisms also applies to frame duration. Fast-paced journalistic routines have only intensified over time, and the pace of production does not diminish as coverage of a

particular debate progresses. As a story begins to wind down journalists are turning their attention to other matters, and the time needed to generate stories for the issue in question is shared with new topics. Journalists will always need “a quick and ready guide” to steer their framing decisions over time. Thus, as long as public officials remain consistent in their frame messaging, their frames are likely to endure. And, again, unless we are looking at extremely long periods of time, journalistic norms are unlikely to shift dramatically. Thus, as long as the norms of responsibility and objectivity continue to hold sway in news practices, the logic Bennett suggests for his indexing hypothesis should also apply to frame duration, and the “responsibility” to serve the public interest by reflecting the views of the most informed members of society—our own officials—should lead journalists and editors to repeat these frames as media coverage of an issue progresses over time. Moreover, the need to convey journalistic “objectivity” by merely echoing the range of opinion suggested by our political leaders should reinforce this tendency.

Yet following more recent work in the indexing tradition, we might also expect that when news is driven by unexpected events, nonofficial sources will find their best opportunity to set the terms of the debate, with their frames appearing early in media coverage and more likely to endure throughout.

Another influential body of work also points to the power divides that distinguish politically and economically elite sponsors from those who are relatively marginalized, but, in contrast to recent indexing research, does not expect challengers’ voices to ever find prominence—at least not in a way that takes the challengers’ perspectives seriously. Sometimes referred to as the hegemonic perspective, this critical scholarship suggests that journalists and editors choose frames that merely reproduce and transmit the dominant ideology of political and economic elites to the public masses (Herman & Chomsky, 1988). Here, too, public officials hold particular sway, but primarily because they embrace and advocate the dominant norms of modern capitalism (Hall, Critcher, Jefferson, Clarke, & Roberts, 1978).

The overwhelming power of capitalism as a whole, and corporate owners and advertisers in particular, is the focal point of this critical scholarship. Across Western democracies, the general trend over the last several decades has been toward consolidated corporate media ownership. These corporate groups have diverse business interests, and when news stories might harm these interests, journalists face pressure to reframe a story to cast the corporate owner’s interests in a more favorable light (Baker, 2007; Curran & Seaton, 2010; Davis, 2002; Herman & Chomsky, 1988). At times this is achieved via direct intervention of the owner, but in most instances, critics argue, such brazen intervention is unnecessary. Journalists implicitly understand where their own interests lie—that is, “with other major corporations, banks, and government”—and they choose frames that reflect this mutual interest (Herman & Chomsky, 1988, p. 14).

The influence of advertisers is another crucial element in most critical theorists’ accounts of media framing. Since the mid- to late-19th century, most mass-market media outlets have relied on commercial advertising to generate income, and the need to attract advertisers, these scholars argue, has profound consequences for media content. To begin, advertisers are unlikely to place ads with outlets that they view as ideological opponents, as supporting political positions counter to their capitalist interests (Herman & Chomsky, 1988, pp. 16–17). What is more, advertisers desire a particular type of audience: namely, affluent consumers (Curran & Seaton, 2010). Thus, to attract advertisers and maximize

profitability, media outlets cater to “affluent minorities” and thereby afford these minorities “a disproportionate influence on public life” (Curran & Seaton, 2010, p. 91). Catering to the affluent also creates a “tendency to promote a conservative, consensual ideology, reinforcing the status quo” (Poole, 2002, p. 53; see also Herman & Chomsky, 1988; Richardson, 2004), and the selection of frames reflects this conservative tendency (cf. Gitlin, 1980).

These interests also help to exclude, or at least minimize, the frames sponsored by members of ethnic and racial minority groups. As Simon Cottle (1999) writes,

surviving in a competitive marketplace means seeking the maximum audience/readers and the maximum receipts from advertisers. In this context, news is produced just like any other commodity for the largest possible group of consumers. Within a predominantly white culture, such an approach will anticipate that the middle ground of white opinion and interests will be catered for while marginalizing minority interests, voices and opinions. (p. 196)

In addition, media outlets tend to dramatize and sensationalize events related to minorities to build outrage and attract more readers (Cottle, 1999). In fact, the critical tradition suggests, when members of minority groups are allowed voice in media coverage, it is to serve as dramatic foil—helping, via the apparent absurdity of their claims, to demonstrate the reasonable position of dominant frames and their sponsors (Hall et al., 1978).

If these critical perspectives are correct, then frames sponsored by political and economic elites should also prove the most enduring. Whether specific and direct corporate pressures or subtle, pervasive taken-for-granted norms are at work, those frames that fit with the interests and values of institutional elites should certainly be the most likely to be repeatedly and continuously forwarded via the mass media. Conversely, when frames associated with minority group perspectives are deployed, we might expect them to be especially dramatic but short-lived—helping emphasize the strength and rationality of dominant claims and thereby enhancing the durability of prevailing perspectives, while themselves disappearing from coverage very quickly.

Research Design

British Media Coverage of the Danish Muhammad Cartoon Controversy

As an illustration of duration analysis techniques and as the first test of theoretical expectations adapted from the frame selection literature, we deploy an original data set drawn from British media coverage of the 2006 Danish Muhammad cartoon controversy. A prototypical example of event-driven news (Shehata, 2007), this case presents a compelling opportunity to examine the ways in which the fast-paced dynamics of news production can generate changes in media framing, even during very short but intense periods of news coverage. Global mass media coverage of the Muhammad cartoon controversy was ultimately rather short-lived—dying away within just a few weeks. Yet the impact of this media event has proven truly long term, as years later the cartoon controversy continues to draw frequent mention in

ongoing discussions concerning relations between Muslims and the West in general, and then found renewed prominence during media coverage of the *Charlie Hebdo* attacks in Paris in January 2015.

Frame Data

Our daily frame data for this study, which were compiled from two quality British newspapers—*The Guardian* (center-left) and *The Daily Telegraph* (center-right)—and their respective Sunday editions, cover the entire period of British mass media debate over the cartoon controversy.¹ Relevant articles were identified using a LexisNexis search for items containing either “prophet,” “Mohammed,” “Muhammad,” or “Muslim” and either “cartoon,” “drawing,” or “depict” for a year following initial publication of the cartoons.

Hand-coding content analysis techniques were then employed to identify and code media frames. Drawing on Entman’s (1993) influential definition—which holds that media frames “select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described” (p. 52)—we chose to focus on the first type of frame from Entman’s list. That is, we examined what others have termed “diagnostic frames” (Snow & Benford, 1988)—those frames concerned with defining the problem(s) inherent in the issue at hand.

However, we made a distinction between our unit of coding and our unit of analysis. Our unit of coding was the individual diagnostic *claim* identified at the sentence level, with the added requirement that the claim must be explicitly tied, through quotation or paraphrase, to a sponsor. One of these claims could either support or counter a single problem definition, and thus each was taken as a component of a larger diagnostic *frame*—our unit of analysis. Consider, for example, the following two claims: (1) Islam is a violent religion. (2) Islam is not inherently violent. These two claims represent parts of a larger diagnostic frame—which we label “Muslim violence or extremism.” The appearance of each claim was coded separately, but for the analysis, the appearance of either signaled deployment of the larger frame.

This approach to conceptualizing, coding, and analyzing diagnostic frames allowed us to focus on manifest content—thus increasing coding reliability—while still capturing the broader interpretive function of frames (e.g., the frame defines Muslim violence as the issue or problem at hand). Coding at this level also allows us to simultaneously code for key frame sponsor and frame characteristic variables. This is another important innovation permitted by our analysis of frame duration during relatively brief periods of event-driven media coverage. Though others have coded frames at this fine-grained level (cf. Althaus, Edy, Entman, & Phalen, 1996), long-term studies that examine changes in framing over time tend to aggregate frames to such high levels of abstraction (sometimes even to the extent that frames are simply

¹ As with most frame selection studies, our interest is in the larger mass-mediated public discourse, rather than the framing provided by a particular media outlet. We therefore analyze frame duration across the two newspapers together, not separately. Of course, the two newspapers we have selected provide just a sample of this discourse, but as widely-read, respected, and influential media outlets representing the center-right and center-left of the political spectrum, they provide valuable insights into the broad framing of the cartoon controversy in Britain.

labeled as either “pro” or “con”) that frames become difficult to categorize based on their frame characteristics (e.g., is a “the cartoons are bad” frame inherently dramatic?), their sponsors (e.g., is that same “the cartoons are bad” frame, observed at the level of the news article, necessarily always sponsored by one particular actor or even set of actors?), or both. Although the analytical approach developed in this study can indeed be applied to frames operating at higher levels of abstraction and over much longer periods of time, this initial empirical illustration demonstrates how and why frame duration dynamics operate even at fine-grained levels of analysis and during very sudden and intense news events.

Using van Gorp’s (2007) recommended approach for frame identification, a random sample of articles was selected from each newspaper, and two coders inductively examined each, sentence-by-sentence, to identify diagnostic frames and their constituent claims and to devise appropriate labels. The debate surrounding the cartoon controversy was complex, and the inductive analysis resulted in identification of 54 frames, comprising 96 total claims. These frames fell into five logical groupings based on whom or what was considered the source of the problem: (1) the cartoons or cartoon supporters; (2) “the West,” Western states/governments, or Western societies; (3) Muslims or Islam; (4) (non-Muslim) cartoon opponents; and (5) other. The Appendix summarizes the 54 diagnostic frames.

Both coders then deductively searched for individual claim occurrences in the full text of all articles. Because claims were identified at the sentence level and all sentences in every article were coded, many of the claims appeared multiple times within a single article. Claims were added to the dataset each time they appeared, allowing us to capture every claim (and therefore every *frame*) occurrence in every article across both newspapers. Ultimately, in the period beginning on January 31, 2006 (when the first diagnostic claim appeared) and ending 54 days later, on March 25, 2006 (after which no relevant claims—and therefore no relevant *frames*—were found), we identified and coded 1,103 claim occurrences in 139 articles across the two newspapers. Intercoder reliability, measured using Krippendorff’s α , and based on coding a random sample of 30% of all articles (which in turn accounted for 38% of all claim occurrences), was 0.77.

Logistic Regression and the Proportional Hazard Rate Model

We define a frame observation as beginning on the day of a given frame’s first (or new) appearance in any media source and ending on the day of the last occurrence, or if followed by an interruption/disappearance of more than six days.² In other words, frames that disappear and reappear

² We chose a six-day interval to reflect the dialogical dynamics and journalistic routines that are likely to impact frame duration during short but intense periods of event-driven media coverage. Over a course of just a few days, it is still relatively easy for journalists to recount and return to earlier frames (to either repeat or counter that frame). But with fast-paced news production rooted in the quest for novelty, if a frame falls out of coverage for a full week, we can more plausibly suggest that it has (at least temporarily) fallen out of focus. On a practical level, a shorter (e.g., three-day) interval produces regression results similar to those for the six-day interval, although the number of frames that appear once and are never repeated dramatically increases, whereas a longer (e.g., 10-day) interval would effectively reduce the data to binary measures (does survive/does not survive the first day).

more than a week later are treated as two independent frame observations.³ For each frame we have the number of days it “survives” in the media coverage until it “dies” and disappears. The frame observations in this format can be analyzed as event history data, and because the content analyses assessed the occurrence of frames several months before and after the first and last frame appearance, we can rule out any censoring of the data.

Because many frames are fleeting, quickly disappearing after the first appearance, we employ two different statistical models. First, we measure whether a given frame survives the first day. We assess the effects of our explanatory variables on this dichotomous indicator with a logistic regression. Second, we explicitly take frame duration into account and use a Cox proportional hazards model to estimate the hazard (or likelihood) that a frame disappears conditional on a number of time-varying explanatory variables. The Cox regression is a semiparametric model that makes no assumptions about the distribution of event times (Allison, 2014).

Variables

We operationalize the core theoretically-derived variables as follows: *Drama*: This variable is coded from 1 to 3 (Krippendorff’s $\alpha = 0.72$). The first category represents frames that recognize “both sides,” are noncontroversial, or suggest the problem *is* the drama being attached to the issue itself. Frames falling into Category 2 constitute controversial claims, but lack inflammatory language; they may raise questions about a group of people, their culture, and/or beliefs, but without insult. The most dramatic frames are highly inflammatory, extreme, and/or exaggerated, and many use insulting language against a group of people, their culture, and/or beliefs. *Counterframe*: A binary variable indicating whether opposing claims within the same frame appeared on a given day (e.g. both “Islam is a violent religion,” and “Islam is not inherently violent” appear).

Cultural resonance: We include two binary variables that address expectations about the impact of cultural resonance: (1) *Free speech*—Commentators have suggested that free speech frames carried the greatest cultural congruence across Western cultures, including Britain, during the cartoon controversy (cf. Klausen, 2009). This variable therefore codes such frames as 1 and all others 0. (2) *Anti-Muslim*—The cartoon controversy erupted just seven months after coordinated bombings of the London transportation system by several British Muslim men. It also occurred during a period in which the British Parliament was debating multiple changes to the country’s terrorism legislation. Both of these events likely increased the resonance of claims critiquing Muslims, and we therefore included a variable that indicates whether the frame *criticizes* Muslims and/or Islam or not (coded 1 and 0, respectively). Though we do expect the impact of cultural resonance to grow over time, we believe the concentrated period we examine to be too brief to test this particular theoretically-derived expectation.

Sponsors: Following the expectations rooted in the indexing and hegemonic perspectives, we constructed a set of binary variables that reflect whether the given frame was explicitly associated in the

³ For a frame occurrence, neither frame frequency nor the newspaper in which the frame appears matter. Nor does it matter whether the same frame occurs repeatedly within the same article.

data (i.e., through quotation or paraphrase, with the actor explicitly named) with (1) *public official* or public institution; (2) academic, media, or other *expert*; (3) social movement *organization* or interest group; or (4) *Muslim* individual or group. *Local sponsor*: Given the transnational nature of the Muhammad cartoon controversy debate, we also included a control variable indicating whether frames were associated with British or non-British sponsors (coded 1 and 0, respectively).⁴

We also coded several control variables: *External shock*: Following Gamson and Modigliani (1989), we recognize the potential significance of external events for shifting the framing of an event. In our time period, two events stand out. The first was the “International Day of Rage” on February 3 that comprised a series of protests around the world, some of them violent, and that dominated the media coverage on February 4 and 5. The second event was a large nonviolent protest that occurred in London on February 11 and that received major attention in the two London-based newspapers. On the mentioned days, two dichotomous indicators capture these events. *Frame prominence*: The placement of a frame in a newspaper—for example, on the front page or in an opinion column—gives a frame more prominence, which in turn should increase the likelihood that this frame will receive further attention. We include two dichotomous indicators for prominence: whether a frame appears on (1) the *front page* and/or (2) an *opinion* column on a given day. *Frame count*: Finally, a single frame does not occur alone and isolated, but in context. That is, discussion of a given frame in the media tends to happen in waves, with sudden surges (“feeding frenzies”) and rapid declines. We control for such patterns by including a count of how often a given frame occurred on a given day.

The dramatic nature of the cartoon controversy also allows us to explicitly test the notion that marginal sources are used as a dramatic foil (e.g., Hall et al., 1978) by including an interaction term for *drama* and *Muslim* sponsor in the models. In keeping with that theory, we expect that the odds of survival for dramatic frames explicitly associated with Muslims will be particularly low.

In principle, the same set of explanatory variables is tested with the logistic regression model for initial frame survival and the Cox proportional hazard model for dynamic frame survival. Because the model for initial frame survival takes only the first day of frame occurrence into account, not all explanatory variables can be tested due to restricted variance, for example because all frames appeared in a front page article in one of the newspapers. Thus, three variables are not included in the logistic model: the cultural resonance variable *Muslim* and the indicators for *front page* and the events of *February 11*. The Cox proportional hazard rate model allows the explanatory variables to vary over time, offering more flexibility and a more suitable test of our expectations.⁵

⁴ Note that none of the frames categories are associated with Muslims, public officials, local sponsors, or anyone else because of the *content* of those frames. Any and all frame(s) could be associated with any type of actor listed, and many were in fact associated with multiple sponsor types. Instead, we code a frame as having a Muslim, public official, or other sponsor when that frame is explicitly tied (again, through quotation or paraphrase) to such a sponsor. Thus, our variables measure whether certain type of sponsors give a frame more “weight,” no matter the specific content of the frame.

⁵ We cannot rule out that unobserved (unreported) frames also affect the duration of the observed frames. This would introduce an omitted variable bias into the model, especially if such an indicator were

Findings

The British media coverage of the 2006 Danish Muhammad cartoon controversy started dramatically, quickly reaching about 180 frame occurrences on the two days following the “International Day of Rage” in early February. The following days, the topic stayed in the news through the large London demonstration on February 11. Subsequently, the coverage dropped substantially, with many days lacking any coverage. Figure 1 provides a detailed overview of which frames appeared on which days during this period. It shows dramatic differences in attention and endurance. In particular, four frames received substantial attention over an extended period: whether (1) the cartoons were offensive (ID = 2) or (2) an expression of free speech (ID = 3), (3) they reflect prejudice against Muslims/Islam (ID = 16), and (4) the issue is about Muslim violence and/or extremism (ID = 27). Some frames only appeared once—for example, the question of anti-Muslim violence (ID = 23) or whether Muslims and Westerners see the world differently (ID = 54).

correlated with the other variables. Both presence and severity cannot be known, but unlike frame selection studies, which might suffer from both omitted variable and selection bias, the latter can be ruled out for the frame duration approach.

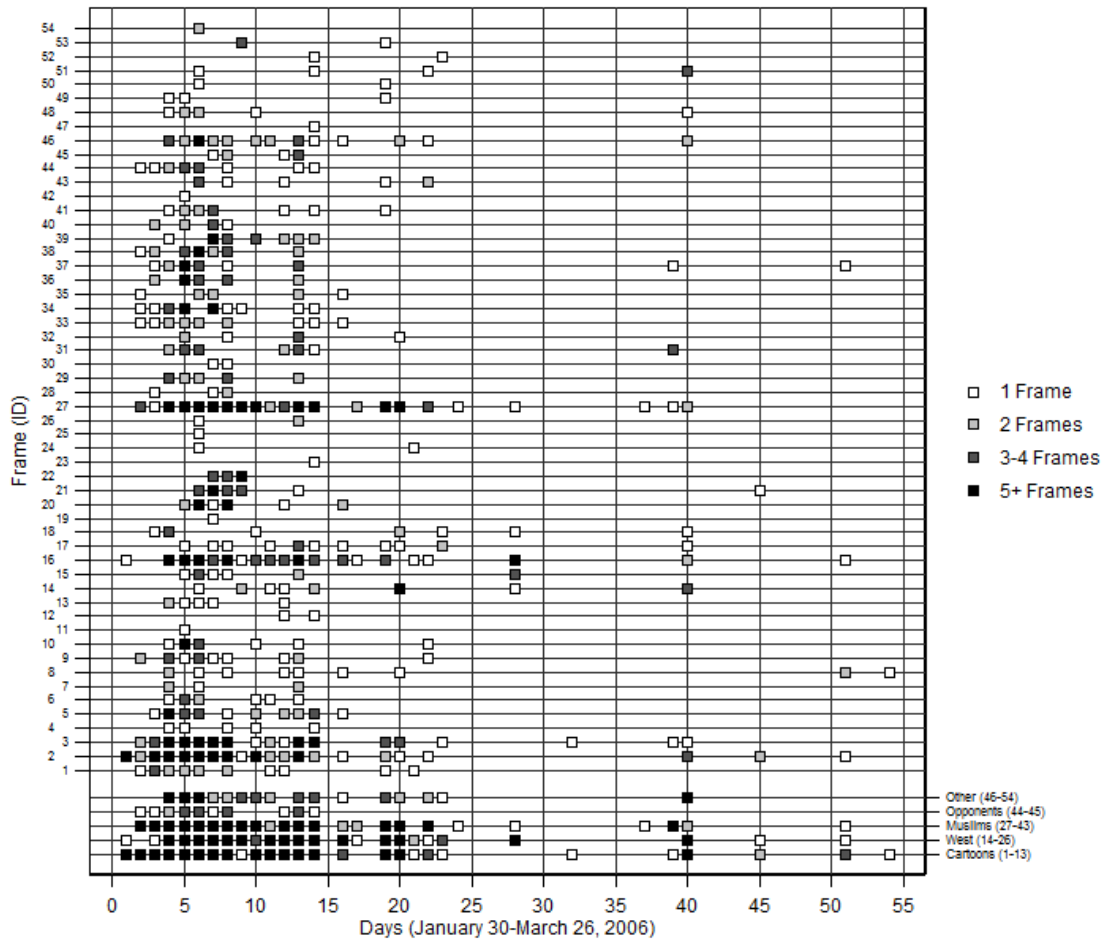


Figure 1. Frame occurrences by day.

Note. Squares indicate the number of times a frame (by frame ID, see the Appendix) or frame category (by frame category, five bottom lines) occurs on a given day.

Because frames that reappeared after more than six days are treated as a new instance of a frame, the total number of observed frames is 82 (see Figure 2). The distribution of the observed frame lengths is highly skewed. About 44% of the frames appear only on a single day and are gone the following day. Among the frames that endure, the length ranges in a fairly flat distribution between two and 28 days. The latter instances provide us with the opportunity to investigate which factors predict the endurance of particular frames.

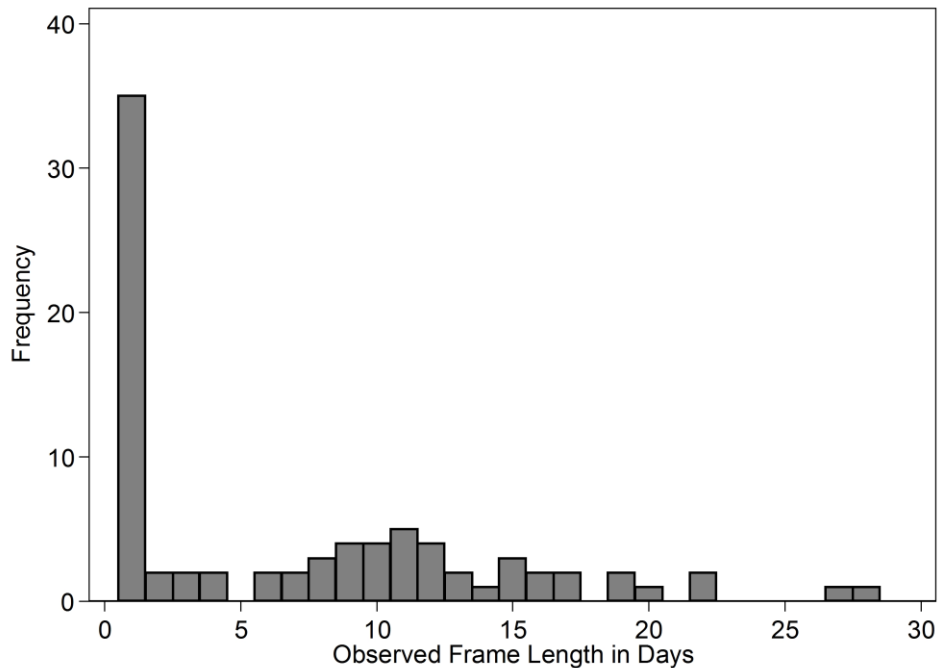


Figure 2. Length of frames.

In a first step, we look at initial frame survival by simply predicting whether a frame survives the first day or not (coded 1 and 0, respectively). The first model in Table 1 reports the results of the logistic regression model, which suggests that three predictors and one interaction play an important role in initial frame survival. The level of drama and Muslim sponsorship play a key role. Without either factor present, only 20% of the frames are predicted to survive the first day (see Figure 3).⁶ For frames associated with high drama, the probability of survival increases to 73%, and for a Muslim source, to 81%. Both factors, individually, have a major impact on frame survival. A joint appearance of both frames, however, has a dampening effect. The interaction is negative, and the likelihood of frame survival is estimated to be 33%—still higher than without either factor present, but much lower than the separate individual effects. Finally, frames associated with a UK-source have a 42% lower chance of surviving the first day than frames associated with a non-UK source.

⁶ The predicted probabilities are based on the logistic regression model in Table 1 and were generated (or simulated) using the *Zelig* library in R. For the simulation, the explanatory factors of interest (*drama*, Muslim source) were set to their lowest or highest value, respectively, while all other variables were set to their mean or modal category.

Table 1. Models of Frame Survival.

	Initial Frame Survival		Dynamic Frame Survival		
	B	SE	B	SE	HR
Frame Count	0.52	(0.39)	-0.28	(0.14)**	0.75
Counterframe	-0.54	(0.95)	-0.18	(0.33)	0.83
Drama	1.36	(0.53)**	-0.75	(0.27)***	0.47
Anti-Muslim			-0.29	(0.34)	0.75
Free Speech	0.53	(0.99)	0.09	(0.42)	1.09
Location: UK	-2.26	(0.86)***	0.74	(0.34)**	2.09
Source: Officials	1.12	(1.01)	0.22	(0.37)	1.25
Source: Experts	-0.10	(0.92)	0.22	(0.33)	1.25
Source: Organized Interest	1.32	(1.34)	0.01	(0.49)	1.01
Source: Muslim	7.86	(4.07)*	-3.34	(1.18)***	0.04
Drama × Source: Muslim	-3.30	(1.50)**	1.42	(0.48)***	4.13
Front Page			-1.98	(1.04)*	0.14
Opinion Section	1.00	(0.80)	-0.28	(0.31)	0.75
February 3	0.35	(0.75)	0.02	(0.41)	1.02
February 11			0.80	(0.45)	2.22
Intercept	-2.47	(1.40)			
LR χ^2	28.65		39.50		
Frames (<i>N</i>)	82		82		
Time Periods (<i>N</i>)			334		

Note. Entries for the initial frame survival model (predicting frame survival) are logistic regression coefficients, with standard errors in parentheses. Entries for the dynamic frame survival model (predicting the "death" of a frame) are proportional hazard model (Cox) coefficients with standard errors in parentheses as well as hazard ratios.

* $p < .10$. ** $p < .05$. *** $p < .01$.

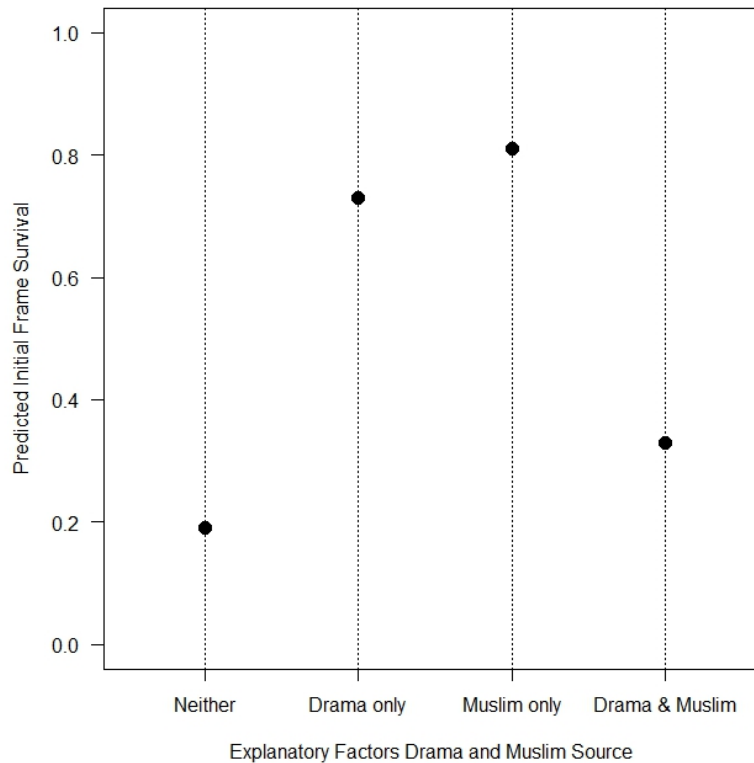


Figure 3. Predicted initial frame survival for drama and Muslim source interaction.

Note. Based on logistic regression in Table 1.

The second step provides an analysis of dynamic frame survival that explicitly accounts for the exact duration of the different frames in a Cox regression model (second model in Table 1).⁷ The dependent variable indicates when the “death” of a frame occurs, that is, that a frame disappears in the media coverage (for at least one week). The results show a pattern very similar to the logistic regression model of initial frame survival: the same three explanatory variables (*drama*, Muslim source, UK location) and the interaction between the first two show statistically significant effects, with two additional factors—frame count and front-page placement—having an impact as well. The latter two indicate that with each additional time a specific frame occurs on a given day, the hazard of disappearing decreases by 25%. This supports the logic of a feeding frenzy in which additional frame appearances help keep the frame alive. The prominence of a frame, in the form of a front-page appearance, increases its viability as well. A front-page appearance is associated with an 86% lower hazard of disappearing than a frame appearing inside

⁷ The overall model as well as all the explanatory variables do not violate the proportional hazards assumption.

the paper. A frame source in the UK again has the opposite effect. A frame associated with a UK source is more than twice as likely to disappear than a frame with a non-UK source.

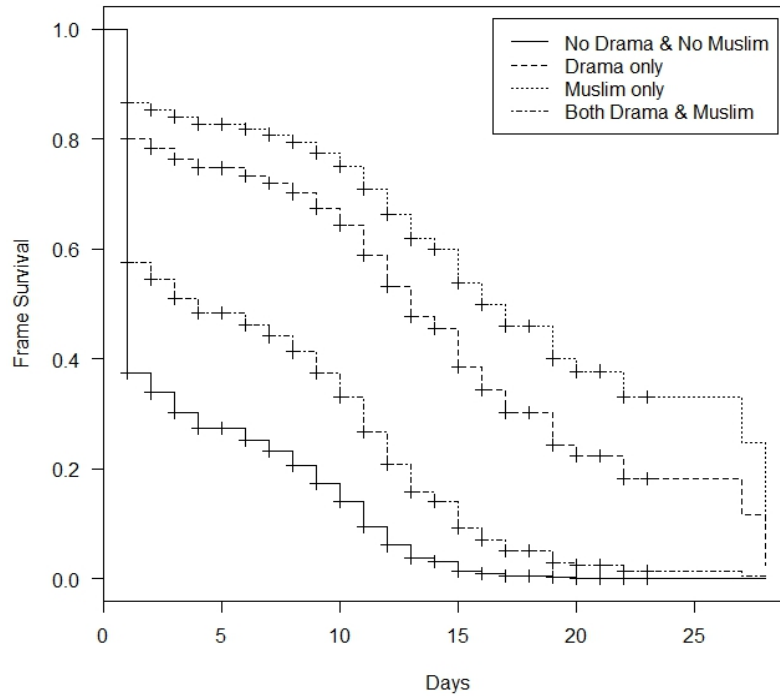


Figure 4. Predicted frame survival function with drama and Muslim source interaction.

Note. Based on proportional hazard rate model in Table 1.

The effects of *drama* and *Muslim* source and their interaction are captured in Figure 4. The predicted frame survival function based on the estimated model suggests that the probability of survival for frames without either factor are immediately less than 40% and quickly declining, surviving at most 15 days. With drama or a Muslim source present, the initial probability of survival is already much higher, 80% and 86%, respectively, and followed by a slow but accelerating decline, surviving for more than 23 days. The joint appearance of both factors, however, dampens these powerful effects. Initial survival is less than 60%, and such frames nearly disappear after 20 days. None of the expectations related to the remaining explanatory variables are supported by the evidence for the Danish Muhammad cartoon controversy.

Discussion

The findings in this study provide intriguing insights about the impact of both frame characteristics and frame sponsorship on the life cycle of frames during a given media event. Surprisingly, none of the frames we would expect to carry particular cultural resonance in Britain during the cartoon

controversy proved likely to survive. Although Figure 1 demonstrates that certain frames addressing freedom of speech and critiquing Muslims did indeed endure to the end of the media debate, when controlling for other effects, cultural resonance does not demonstrate a statistically significant impact on the likelihood of such frames' survival.

Of course, given the relatively short time span investigated in our analysis, it is possible that the effects expected for cultural resonance simply did not have enough time to accrue. As noted, the familiarity and "natural" fit associated with frames that carry cultural resonance must develop over relatively long periods. Yet given the centrality of freedom of speech to British/Western democratic value systems and the prolonged debate about the role of Muslims and Islam in Western public life following the attacks of September 11, 2001, the expected effects of cultural resonance almost certainly should be evident in early 2006.

The frame characteristic that does clearly matter, however, is drama. Whether examining the logistic or proportional hazard rate regression models, the data very clearly suggest that the more dramatic the frame, the more likely it is to be repeated in later media coverage. From a normative perspective, this finding is not encouraging. But it fits with decades of scholarship, highlighted in the theoretical discussion above, suggesting that journalistic norms and routines lead journalists to prioritize drama and conflict in news coverage.

On the other hand, we might be encouraged by the findings about the impact of frame sponsors. To begin, the data suggest that British journalists honored the transnational character of the Muhammad cartoon debate. As the results for the *location* variable indicate, British coverage did not devolve into a parochial, insular debate among Britons themselves. Instead, frames associated with sponsors located outside of the United Kingdom were more likely to endure than were those sponsored by local sources. Second, sponsorship by elite sources (public officials, experts, or organized interests) did not impact frame longevity. This finding runs counter to expectations forwarded by hegemonic theory but is in keeping with more recent work on indexing that suggests that nonofficial frame sponsors are most likely to find voice when news is driven by unexpected and dramatic events, such as the Danish cartoon controversy. Indeed, Muslim sponsorship actually *increased* the longevity of frames. Thus, rather than marginalizing or simply paying lip service to Muslims by carrying their claims once and then letting them drop, British journalists repeated Muslim-sponsored frames through to the end.

What to make, then, of the results for the interaction of the *drama* and *Muslim* source variables? It seems that there is indeed some qualified support for the expectations of hegemonic theory. A few particularly dramatic frames—the cartoons constitute a "declaration of war," the West is engaged in a "crusade" against Islam, Zionists hold sway in the West—are paired with Muslim sources and used just as the hegemonic perspective would expect. They serve as dramatic foils, appearing once and then disappearing entirely. Yet these findings do not support the narrative suggested by the hegemonic theory as a whole, as the odds of survival for Muslim-sponsored, dramatic frames are still higher than they are for more sedate frames associated with non-Muslim sources (see Figure 4). In other words, though a small handful of frames are deployed in a way that could both undermine the authority of Muslim voices

and enhance that of non-Muslim sources, taken as a whole, Muslim-sponsored frames were much more likely to endure.

Given that our study presents only an initial test of the various theoretical expectations outlined above, we do not wish to overextend our findings. The Danish Muhammad cartoon controversy offers an important and illustrative example of event-driven news coverage. But it is, ultimately, a single test case that relies on just one approach to conceptualizing and measuring media frames themselves. Although our work takes a very fine-grained approach to operationalizing frames, relying on manifest content at the sentence level, event history analysis may be just as easily deployed using frames defined at higher levels of abstraction and using different coding techniques, including machine learning and other automated approaches. In short, it does not matter how frames are identified in media texts, only that those frames can be explored longitudinally.

Indeed, this initial illustration, and the findings born out of it, suggests that the analysis of frame duration holds promise. For one, our analysis very clearly demonstrates how ephemeral most frames are, and in doing so, points to a particular need for explaining what gives those frames that do indeed “stand the test of time” their staying power. Our analysis also reveals just how dynamic framing processes can be, even during very short periods of media engagement with a particular issue or event. Moreover, we have shown through our application of the proportional hazard rate model that event history analysis provides useful tools to improve the rigor of our research into media framing dynamics.

Frame duration requires much more extensive examination and testing—using various types of issues and events, different time periods, and alternative operationalization of core concepts (including varying levels of frame abstraction)—and its theoretical grounding requires more thorough elaboration than our short introductory paper could provide. Our hope, then, is that this initial illustration and exploration offers a stepping-stone for compelling future research into the notion of frame duration.

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Appendix: Diagnostic Frames (Categories and IDs)

Cartoons and/or cartoon supporters are the source of the problem

- 1 Cartoons blasphemous/sacrilegious
- 2 Cartoons offensive
- 3 Cartoons are free speech
- 4 Cartoon advocates are extremists
- 5 Cartoons provocative
- 6 Cartoons incite hatred
- 7 Cartoons damage the community
- 8 Publishing cartoons = error in judgment
- 9 Cartoons poor quality
- 10 Cartoons fuel terrorism and/or extremism
- 11 Cartoons = declaration of war
- 12 Media coverage is the problem
- 13 Republishing cartoons makes things worse

"The West," Western governments/societies are the source of the problem

- 14 Western foreign policy and/or aggression against the Muslim world
- 15 Western ignorance of Islam
- 16 Prejudice against Muslims/Islam
- 17 Hypocrisy of Western response to cartoons
- 18 Fascism/Holocaust
- 19 Western and/or Christian crusade and/or war
- 20 Government mishandling of cartoon affair
- 21 Police failed by not arresting protesters
- 22 Inconsistent application of limits to speech by Western public officials
- 23 Anti-Muslim violence
- 24 The West and/or Western states are terrorists
- 25 The West has lost its sense of the sacred
- 26 Zionism and support for Zionism in the West

Muslims, Islam, and/or Muslim governments are the source of the problem

- 27 Muslim violence and/or extremism
- 28 Boycott
- 29 Danish imams deliberately provoked controversy
- 30 Muslim hatred of and/or disdain for the West
- 31 Censorship/self-censorship
- 32 Lack of Muslim integration into West
- 33 Muslims do not accept Western values
- 34 Muslims do not accept free speech
- 35 Muslim beliefs, practices, and/or culture
- 36 Hypocrisy of Muslim response
- 37 Other religions satirized
- 38 Muslim prejudice, intolerance, and/or bigotry

- 39 Muslim regimes/governments instrumentalizing the controversy
- 40 Muslim regimes/governments the problem
- 41 Muslim overreaction to cartoons
- 42 Muslims and/or Islam threaten(s) free speech
- 43 Various Muslim actors instrumentalizing the controversy
- Cartoon opponents (not specific to Muslims) source of the problem
 - 44 Capitulation to and/or appeasement of Muslims' demands
 - 45 Too much tolerance
- Other source of the problem (including the controversy itself)
 - 46 Clash of cultures/civilizations
 - 47 No one can win
 - 48 Hard to balance rights/responsibilities/values
 - 49 Controversy is fleeting/exaggerated
 - 50 Relations between Islamic world and West bad and/or growing worse
 - 51 Both sides to blame
 - 52 Controversy detracting from more important issues
 - 53 Free speech debate has become confused/convoluted
 - 54 Muslims and Westerners see the world differently